

CLAIMS

1. A bio-stable hydrogel for use in the in the treatment and prevention of incontinence and vesicoureteral reflux
- 5 said hydrogel obtainable by combining acrylamide and methylene bis-acrylamide in amounts so as to give about 0.5 to 25% by weight polyacrylamide, based on the total weight of the hydrogel; radical initiation; and washing with pyrogen-free water or saline solution.
- 10 2. The hydrogel according to claim 1, wherein said combining acrylamide and methylene bis-acrylamide is in a molar ratio of 150:1 to 1000:1.
- 15 3. The hydrogel according to claim 1, comprising less than 15% by weight polyacrylamide, based on the total weight of the hydrogel, preferably less 10%, more preferably less than 7.5%, even more preferably less than 5%, most preferably less than 3.5% % by weight polyacrylamide, based on the total weight of the hydrogel.
- 20 4. The hydrogel according to claim 3 comprising at least 1% by weight polyacrylamide, based on the total weight of the hydrogel, preferably at least 1.5%, such as 1.6% % by weight polyacrylamide, based on the total weight of the hydrogel.
- 25 5. The hydrogel according to claim 1 having a complex viscosity of about 2 to 50 Pas, such as about 2 to 40 Pa s, preferably about 2 to 30 Pa s, more preferably about 2 to 20 Pa s.
6. The hydrogel according to claim 1 for use in the in the treatment and prevention of incontinence.
- 30 7. The hydrogel according to claim 1 further comprising at least 75% by weight pyrogen-free water or saline solution, preferably pyrogen-free water.
8. The hydrogel according to claim 7 comprising at least 80% by weight pyrogen-free water or saline solution, preferably at least 85 %, more preferably at least 90%, even more preferably at least 95% by weight pyrogen-free water or saline solution.

9. A method of treating or preventing incontinence or vesicoureteral reflux comprising administering a hydrogel to a mammal said hydrogel comprising 0.5 to 25% by weight polyacrylamide, based on the total weight of the hydrogel.

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10. The method according to claim 9, wherein the hydrogel is obtainable by combining acrylamide and methylene bis-acrylamide in a molar ratio of 150:1 to 1000:1.

11. The method according to claim 9, wherein the hydrogel comprises less than 15% by weight polyacrylamide, based on the total weight of the hydrogel, preferably less 10%, more preferably less than 7.5%, even more preferably less than 5%, most preferably less than 3.5% by weight polyacrylamide, based on the total weight of the hydrogel.

12. The method according to claim 11, wherein the hydrogel comprises at least 1% by weight polyacrylamide, based on the total weight of the hydrogel, preferably at least 1.5%, such as 1.6% by weight polyacrylamide, based on the total weight of the hydrogel.

13. The method according to claim 9, wherein the hydrogel has a complex viscosity of about 2 to 50 Pas, such as about 2 to 40 Pas, such as about 2 to 30 Pas, preferably about 2 to 20 Pas.

14. The method according to claim 9, wherein the hydrogel comprises at least 80% by weight pyrogen-free water or saline solution, preferably at least 85 %, more preferably at least 90%, even more preferably at least 95% by weight pyrogen-free water or saline solution

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15. The method according to claim 9, wherein the administering comprises injecting the hydrogel.

30 16. The method according to claim 15, wherein the injecting of the hydrogel comprises injections selected from the group consisting of injections at positions 10, 2, and 6 o'clock of the cross-sectional axis of the urethra for the treatment of urinary incontinence; injections at positions 10, 2, and 6 o'clock of the cross-sectional axis of the colon or 35 rectum for the treatment of anal incontinence; and

injections at positions 10, 2, and 6 o'clock of the cross-sectional axis of the ureter for the treatment of vesicoureteral reflux.

17. The method according to any one of claims 9 further comprising the use cells, such as
5 stem cells for cellular engraftment to the surrounding tissue in the ureter, urethra or *analis canalis*.

18. A prosthetic device for increasing the resistance of conduits selected from the group
consisting of the urethra; the rectum or colon; and the ureter for the treatment of urinary
10 incontinence, anal incontinence, and vesicoureteral reflux, respectively;
wherein said device is injectable and comprising a hydrogel as defined in any of claims 1
to 8.

19. The device according to claim 18, further comprising cells, such as stem cells for
15 cellular engraftment to the surrounding tissue in the ureter, urethra or *analis canalis*.